DOCUMENT RESUME

ED 223 210 IR 010 461

AUTHOR Bridges, Nicholas
TITLE Development of Aural Perception of Selected Percepts of Musical Form Utilizing Programed Instruction.
PUB DATE May 82
NOTE 10p.; Paper presented at the Annual Meeting of the Association for Educational Communications and Technology, Research and Theory Division (Dallas, TX, May 1982). For other papers, see IR 010 442-487.
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Audiovisual Instruction; *Autoinstructional Aids; Education Majors; *Individualized Instruction; Intermode Differences; Media Research; Music Appreciation; *Music Education; *Programed Instruction; *Programed Instructional Materials
IDENTIFIERS *AECT Research and Theory Division Meeting; *Musical Analysis

ABSTRACT

The relative effectiveness of teaching methods using programmed instructional materials to teach musical percepts--phrase, theme, introduction, interlude, coda, binary form, ternary form, and rondo form--was studied. The 124 undergraduate elementary education majors used as subjects were found to be similar in aural perception, length of musical training, and attitudes toward listening. Subjects were assigned to either the control group or one of the two experimental groups. A 13-lesson unit of self-paced, programmed, audiotaped materials was used. One experimental group used the materials independently, while another used the same programmed materials in a whole-class setting with a music teacher using the same script and programmed examples. Both groups used workbooks containing objectives, reinforcement of visual information, and space for student responses. On both immediate and delayed posttests, teacher-presented, whole-class programmed lessons in audiotape format were significantly more effective in developing discrimination of musical form than the same lessons used in an individualized setting. The variable length of prior musical experience considered alone and in combination had no significant effect, and no attitude shift was observed. Both experimental groups scored significantly higher on posttest and retention tests. Further research in musical percepts and methods is necessary. (LMM)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED223210

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

- This document has been reproduced as received from the person or organization originating it.
  Minor changes have been made to improve reproduction quality.
- Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

DEVELOPMENT OF AURAL PERCEPTION OF SELECTED PERCEPTS OF MUSICAL FORM UTILIZING PROGRAMED INSTRUCTION

by

Nicholas Bridges

IR010 461

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Michael R. Simonson

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Nicholas Bridges
917 14th Street
Rockford, IL 61108

DEVELOPMENT OF AURAL PERCEPTION OF SELECTED PERCEPTS OF MUSICAL FORM UTILIZING PROGRAMED INSTRUCTION

Purpose of the Study

The purpose of this study was to compare the relative effectiveness of three teaching methods, two of which utilized mediated programed instructional materials in developing the aural discrimination of percepts related to musical form in undergraduate elementary education majors. Programed lessons recorded on audiotape and reinforced with workbook materials were utilized to teach the musical percepts of phrase, theme, introduction, interlude, coda, binary form, ternary form, and rondo form.

Procedures of the Study

The experimental design chosen for the study was one which incorporated the pretest, posttest, retention test format in an experimental vs. control group configuration with assignment to groups made via intact classroom units. Because this procedure cannot guarantee pre-experimental equivalence of groups, pretesting procedures helped to establish group equivalence. Data gathered from pretesting indicated group equivalence in an abili-

ty to aurally perceive aspects of musical form, in length of prior musical experience, and in attitudes toward listening experiences.

Internal validity of the study was protected by use of this specific research design, and external validity was protected in great measure by the use of a criterion measure constructed in parallel, equivalent forms.

A pilot study was used to field test materials and to establish reliability and validity for the criterion measure and attitude scale which were used in the main study.

The criterion measure (r=.89) was a test of aural perception skills which used clear examples of various forms chosen from standard repertoire of popular and art music. It was standardized with regard to recorded directions, questions asked and answers expected of students.

The attitude scale (r=.81) was a four-point Likert-type scale with ten positively stated and ten negatively stated statements about listening to music. The statements were arranged by random assignment.

Prior to the experiment a thirteen-lesson unit of linear, self-paced programed audiotaped materials dealing with percepts of musical form were developed by the researcher. Lessons were restricted to a 15- to 20-minute time limit except for the final two which included review materials.

Three treatment groups were used and the same objectives and percepts were utilized in the development of the instructional

materials which were presented to these groups. The first experimental group used the individualized programed materials in a self-paced format. The second experimental group used the same programed materials, but they were presented by a music teacher in a whole-class format using the same script as the narrated, individualized audiotaped version and the same musical examples. In both experimental groups the students used a workbook which accompanied the tapes. The workbook listed the objectives for each lesson and reinforced visually information which was presented in the programed lessons. The students indicated their responses to questions in this workbook.

Subjects were assigned to experimental treatment groups by intact classes. The total population of 124 subdivided by group as follows: individualized programed treatment, 43 subjects; whole-class programed treatment, 49 subjects; control, 32 subjects.

The experimental period spanned five weeks preceded by a pretest administration of Form A of the criterion measure and the attitude measure. At the conclusion of this period Form B of the criterion measure and the attitude measure were readministered as posttests. Form A of the criterion measure was readministered as a retention test four weeks following the end of the experimental period.

Statistical Analysis of the Data

Scoring of individual responses to the criterion measure for pretest, posttest, and retention testadministrations; and

scoring of the two administrations of the attitude scale were conducted, the scores recorded on charts, and statistical procedures conducted. While it is often the practice in studies of this nature to eliminate from statistical consideration scores of those experimental treatment subjects who have completed what is deemed an insufficient number of the lessons contained in the experimental package, this may possibly result in some skewing of results if the same consideration has not been observed with regard to a careful monitoring of the attendance of control treatment subjects upon the lessons presented in that group. Therefore, no subject was eliminated from consideration in the statistical procedures when a full set of scores was available, i.e., three scores on the criterion measure and two scores on the attitude scale.

Analysis of variance and covariance were used to conduct those statistical procedures needed to answer the main research questions: (1) Will non-music major university students who have had percepts of musical form presented to them through the use of individualized, self-paced, linear, programed lessons recorded on audiotape score significantly higher on a criterion test than non-music major university students who have had the identical linear, programed lessons presented to them in a large-group, whole-class format? (2) Will the individualized treatment group and/or the whole-class treatment group score significantly higher on a criterion test than non-music major university students in a control group which will not have received programed instruc-

tion in musical form? (3) Which of the two groups that received experimental treatment will have retained the greatest amount of information presented during the experimental treatment period as measured by a retention test administered approximately four weeks after the end of the experimental period? (4) Will the individualized treatment group and/or the whole-class treatment group score significantly higher on a retention test than the control group?

The data which were collected from an experiment involving two experimental treatment groups and a control group resulted from measures of subjects' abilities to perceive musical form as measured by the criterion measure and from the scores of subjects achieved on the attitude scale. All mean scores were subjected to analysis of covariance to help determine the equality of means for groups of unequal size; analysis of variance to determine possible significance between pairs of mean scores; and the Scheffé range test procedure which also helped establish equality of means between groups and determined significance or lack of significance between groups.

The four major research questions which were proposed by the investigator were answered through statistical comparisons reported here. The findings were that:

1. There was a significant difference found at the .05 level between the two experimental groups, with the mean scores of the whole-class group being significantly higher than those obtained

by the individualized group on the criterion posttest;

2. Analysis of variance between mean scores of all groups onthe criterion posttest showed significantly higher scores by both experimental groups versus the control group;

3. Analysis of the data obtained from the performance of subjects on the retention test revealed that the whole-class experimental group scored significantly higher at the .05 level of confidence than did the individualized experimental group; and

4. The two experimental groups scored significantly higher mean scores at the .05 level of confidence on the retention test than did the control.

Conclusions of the Study

Within the parameters of this study the following conclusions were drawn:

1. The ability to discriminate selected percepts related to form, i.e., phrase, theme, introduction, interlude, coda, binary form, ternary form, and rondo form, can be effectively developed in non-music major university undergraduates through the use of programed lessons in both individualized and teacher-presented whole-class formats.

This finding was supportive of the findings of a number of previous studies done in various places, most notably the lengthy series of investigations conducted at Boston University.

Within the limits of this study teacher-presented whole-class programed lessons in audiotape format were found to be signifi-

cantly more effective in developing discrimination of musical form than the use of the same programed lessons used in an individualized setting.

Since this study involved the first direct comparison known to this author of the use of programed materials for teaching musical percepts in the whole-class and individualized setting, it was not possible to make direct comparisons to the results of other studies.

3. The variable length of prior music experience considered alone and in combination with the effects of treatment had no statistically significant effect upon the statistical analyses.

4. Since no significant change of attitudes were observed in any group, it cannot be said that the experimental treatment in this study led to any significant attitude shift.

Recommendations for Future Research

The following topics for future research are suggested:

1. A study which further compares the effectiveness of the whole-class versus the individualized format for presentation of programed learning materials in the music classroom would expand the findings of this study. Such a study might explore the use of other percepts and/or concepts, it could utilize the percepts of this study at the elementary or secondary level, or it might utilize the materials of this study in a setting appropriate to their level of difficulty, e.g., with musically talented high school students.

2. A study could be initiated which employed a comparison

of these two programed approaches with a population of gifted students.

3. A study which limited the teaching materials to one type of literature, e.g., popular music, orchestral music, etc., would give further indication of the validity of the findings of this study.

4. A study could be done which made a comparison of the relative time and cost effectiveness of these two approaches.

5. Further validation of this study's results could be obtained by using all of the materials of this study in a replication of the study with true random sampling and groups of equal size.

6. Further validation of this study's results could be obtained by using the materials of this study in an appropriate setting with a new criterion and attitude measure constructed specifically for such a study. New figures for reliability and validity would, of course, be necessary.

7. A study is suggested which would employ either the same or different percepts and/or concepts in both the whole-class and individualized programed formats using a branching programed instruction method.

8. A study based on any combination of the above programed approaches could be utilized to develop, refine and standardize a more large-scale instrument for the measure of a student's ability to discriminate a variety of musical concepts.

9. The expansion of these materials into some form of computer assisted instruction would provide a valuable area of study.